Clinicians Should Retain the Ability to Choose a Pathologist

Dirk M. Elston, MD

As employers search for ways to reduce the cost of providing health care to their employees, there is a growing trend toward narrowed provider networks and exclusive laboratory contracts. In the case of clinical pathology, some of these choices make sense from the employer's perspective. A complete blood cell count or comprehensive metabolic panel is done on a machine and the result is much the same regardless of the laboratory. So why not have all laboratory tests performed by the lowest bidder?

Laboratories vary in quality and anatomic pathology services are different from blood tests. Each slide must be interpreted by a physician and skill in the interpretation of skin specimens varies widely. Dermatopathology was one of the first subspecialties to be recognized within pathology, as it requires a high level of expertise. Clinicopathological correlation often is key to the accurate interpretation of a specimen. The stakes are high, and a delay in diagnosis of melanoma remains one of the most serious errors in medicine and one of the most common causes for litigation in dermatology.

The accurate interpretation of skin biopsy specimens becomes especially difficult when inadequate or misleading clinical information accompanies the specimen. A study of 589 biopsies submitted by primary care physicians and reported by general pathologists demonstrated a 6.5% error rate. False-negative errors were the most common, but false-positives also were observed.[1] A study of pigmented lesions referred to the University of California, San Francisco, demonstrated a discordance rate of 14.3%.[2] The degree of discordance would be expected to vary based on the range of diagnoses included in each study.

From the Department of Dermatology and Dermatologic Surgery, Medical University of South Carolina, Charleston.
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Correspondence: Dirk M. Elston, MD, Department of Dermatology and Dermatologic Surgery, Medical University of SC, MSC 578, 135 Rutledge Ave, 11th Floor, Charleston, SC 29425-5780 (elstond@musc.edu).

Board-certified dermatopathologists have varying areas of expertise and there is notable subjectivity in the interpretation of biopsy specimens. In the case of problematic pigmented lesions such as atypical Spitz nevi, there can be low interobserver agreement even among the experts in categorizing lesions as malignant versus nonmalignant (κ=0.30).[3] The low concordance among expert dermatopathologists demonstrates that light microscopic features alone often are inadequate for diagnosis. Advanced studies, including immunohistochemical stains, can help to clarify the diagnosis. In the case of atypical Spitz tumors, the contribution of special stains to the final diagnosis is statistically similar to that of hematoxylin and eosin sections and age, suggesting that nothing alone is sufficiently reliable to establish a definitive diagnosis in every case.[4] Although helpful, these studies are costly, and savings obtained by sending cases to the lowest bidder can evaporate quickly. Costs are higher when factoring in molecular studies, which can run upwards of $3000 per slide; the cost of litigation related to incorrect diagnoses; or the human costs of an incorrect diagnosis.

As a group, dermatopathologists are highly skilled in the interpretation of skin specimens, but challenging lesions are common in the routine practice of dermatopathology. A study of 1249 pigmented melanocytic lesions demonstrated substantial agreement among expert dermatopathologists for less problematic lesions, though agreement was greater for patients 40 years and older (κ=0.67) than for younger patients (κ=0.49). Agreement was lower for patients with atypical mole syndrome (κ=0.31).[5] These discrepancies occur despite the fact that there is good interobserver reproducibility for grading of individual histological features such as asymmetry, circumscription, irregular confluent nests, single melanocytes predominating, absence of maturation, suprabasal melanocytes, symmetrical melanin, deep melanin, cytological atypia, mitoses, dermal lymphocytic infiltrate, and necrosis.[6] These results indicate that accurate diagnoses cannot be reliably established simply by grading a list of histological features.

Accurate diagnosis requires complex pattern recognition and integration of findings. Conflicting criteria often are present and an accurate interpretation requires considerable judgment as to which features are significant and which are not.

Separation of sebaceous adenoma, sebaceoma, and well-differentiated sebaceous carcinoma is another challenging area, and interobserver consensus can be as low as 11%,[7] which suggests notable subjectivity in the criteria for diagnosis of nonmelanocytic tumors and emphasizes the importance of communication between the dermatopathologist and clinician when determining how to manage an ambiguous lesion. The interpretation of inflammatory skin diseases, alopecia, and lymphoid proliferations also can be problematic, and expert consultation often is required.

All dermatologists receive substantial training in dermatopathology, which puts them in an excellent position to interpret ambiguous findings in the context of the clinical presentation. Sometimes the dermatologist who has seen the clinical presentation can be in the best position to make the diagnosis. All clinicians must be wary of bias and an objective set of eyes often can be helpful. Communication is crucial to ensure appropriate care for each patient, and policies that restrict the choice of pathologist can be damaging.

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